

Version with markings to show changes made

As a result of this pressure P, the outer surface 125 of the plastic disc 104 that is located adjacent to the inner surface 127 of the brake cylinder ~~and~~ end cap 84 is pressed against the inner surface 127 of the brake cylinder and cap 84 and is in frictional engagement with the inner surface 127. Also, as a result of this pressure P, the opposite surface 129 of the same plastic disc 104 is in frictional contact with the adjacent surface 131 of the adjacently located steel disc 102. As indicated previously, the steel discs 102 have projections 108 that fit into the adjacent channel 110 in the brake cylinder shaft 64 and hence the steel discs 102 rotate with the brake cylinder shaft 64. In view of this arrangement, the plastic disc 104 with its surfaces 125 and 129 that are in frictional engagement with the respective surfaces 127 and 131 create a frictional braking force that tends to resist the rotation of the steel disc 104 with the surface 131 and the associated rotation of the connected brake cylinder shaft 64. As illustrated in FIG. 1, ~~When~~ when the brake wheels 66 and 68 that are non-rotatably fixed to the brake cylinder shaft 64 by the pins 65 are in contact with the respective wheels 20 and 22 this frictional braking force is transmitted to wheels 20 and 22 to resist movement of the wheeled surface abrading machine 10 due to the rotating abrading element 15 and its contact with the surface 16 that is being abraded.

Cancel the paragraph bridging pages 11 and 12 of the application and in place thereof add the paragraph set forth on the following pages 5 and 6 of this amendment.

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The plastic discs 104 that do not have the outer surface 125 located adjacent to the inner surface 127 of the brake cylinder end cap 84 are not subject to wear during the braking process and hence these plastic discs 104 can be used for spares for the plastic discs 104 that has its outer surface 125 located in contact with the inner surface 127 of the brake cylinder end cap 84 when it wears out. When this occurs, one of the plastic discs 104 that ~~have~~ has not been subject to wear can be switched with the worn out plastic disc 104. This is accomplished by removing the jam nut 123, the brake cylinder end cap 94, the spring 120, plus the adjacent brake wheel 68 and the associated bearing assembly 72 in a conventional manner. Then, one of the plastic discs 104 that have not been subject to wear is switched with the worn out plastic disc 104 and the parts are reassembled in reverse order. To accomplish this, the discs 103, 102 and 104 are slipped off of the end of the brake cylinder shaft that had the brake wheel on it. This is made

possible since the diameter of the respective holes 105, 106 and 118 in the steel disc 103, the steel discs 102 and the plastic discs 104 are slightly larger than the diameter of the threaded portion 122 of the brake cylinder shaft 64 and this permits the discs 103, 102 and 104 to be slipped over the threaded portion 122 of the brake cylinder shaft 64 once the jam nut is removed from the shaft 64.

Cancel the paragraph bridging pages 12 and 13 of the application and in place thereof add the paragraph set forth on the following page 8 of this amendment.

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As illustrated in FIG. 1, the brake wheels 66 and 68 are usually pressed into engagement with the respective surface abrading machine wheels 20 and 22 as a result of the pressure exerting means comprising the adjusting bolt 130 with its head and washer 132 and the threaded portion 134 with a portion that is threaded into the threaded hole 136 in the wheel mount 18. The pressure exerting means also includes a compression coil spring 138 that is located around a portion of the threaded portion 134 of the adjusting bolt 130 and the lower end of the compression spring 138 is in contact with the brake mounting plate 32 and forces it in a downward direction that results in the brake wheels 66 and 68 being pressed against the wheels 20 and 22. The distance D of the axis of rotation of the brake wheels 66 and 68 and the axis of rotation of the wheels 20 and 22 of the abrading machine 10 can be adjusted by turning the adjusting bolt 130 clockwise to narrow the distance and counter clockwise to increase the distance D. This adjusting bolt 130 permits compensation for a number of factors including wear of the abrading machine wheels 20 and 22 or the brake wheels 66 and 68.

Amendments to the Claims

Cancel all of the present claims 1 through 11 and in place thereof add the claims 12 through 26 set forth on pages 10 through 14 of this amendment.

Listing of claims:

Claims 1-11 (canceled)

Claim 12 (new): A braking system for a surface abrading machine for abrading a surface with an abrading element having a frame, an axle member and wheels comprising: braking means operatively connected to the frame to counteract force caused by contact of the abrading element with the surface being abraded and positioned to contact at least one of the wheels of the surface abrading machine including rotating means for rotatably engaging at least one of the wheels of the surface abrading machine and a braking means axle member connected to the rotating means and means for exerting a braking force through the braking means axle member, and manually operable brake engaging means for causing the rotating means of the braking means to engage at least one of the wheels of the surface abrading machine.

Claim 13 (new): The braking system of claim 12 wherein the manually operable brake engaging means includes pressure exerting means for causing the rotating means to put pressure on at least one of the wheels of the surface abrading machine.

Claim 14 (new): The braking system of claim 13 wherein the pressure exerting means includes adjusting means for adjusting the pressure put on at least one of the wheels of the surface abrading machine by the rotating means.

Claim 15 (new): The braking system of claim 12 wherein the braking means axle member is separate from any axle associated with the wheels of the surface abrading machine.

Claim 16 (new): The braking system of claim 15 wherein the separate braking means axle member is movable to an engaged position and a disengaged position.

Claim 17 (new): The braking system of claim 16 wherein the separate braking means axle member is movable to an engaged position and a disengaged position by the manually operable brake engaging means.

Claim 18 (new): The braking system of claim 12 wherein the means for exerting a braking force through the braking means axle member comprises at least one brake disc.

Claim 19 (new): The braking system of claim 12 wherein the means for exerting a braking force through the braking means axle member comprises a plurality of brake discs.

Claim 20 (new): The braking system of claim 19 further comprising means for putting pressure on the plurality of brake discs.

Claim 21 (new): The braking system of claim 20 wherein the means for putting pressure on the plurality of brake discs comprises a spring.

Claim 22 (new): The braking system of claim 20 wherein the plurality of brake discs include alternating metallic and nonmetallic brake discs.

Claim 23 (new): The braking system of claim 22 wherein the braking means axle member rotates and the metallic brake discs are connected to and rotate with the braking means axle member.

Claim 24 (new): A braking system for a surface abrading machine for abrading a surface with an abrading element having a frame, an axle member and wheels comprising: braking means operatively connected to the frame to counteract force caused by contact of the abrading element with the surface being abraded and positioned to contact at least one of the wheels of the surface abrading machine including rotating means for rotatably engaging at least one of the wheels of the surface abrading machine and a braking means axle member connected to the rotating means and means for exerting a braking force through the braking means axle member, brake force adjusting means associated with the means for exerting a braking force through the braking means axle member, and manually operable brake engaging means for causing the rotating means of the braking means to engage at least one of the wheels of the surface abrading machine.

Claim 25 (new): The braking system of claim 24 wherein the brake force adjusting means comprises an adjustable rotatable member.

Claim 26 (new): The braking system of claim 25 wherein the adjustable rotatable member comprises a nut.

REMARKS

The informalities stated in the Office action that the Examiner noted in line 8 of page 11, in line 3 of page 12 and in line 5 of page 13 of the application have been corrected by this amendment. In addition, a typographical error on the fourth line from the bottom of page 10 of the application has been corrected by this amendment so that "cylinder and cap 84" is corrected to read "cylinder end cap 84". The informalities that the Examiner stated with respect to the previous claims are also believed to no longer apply to the present claims.

The previous claims 1 through 11 have been canceled and replaced by new claims 12 through 26 by this amendment. These new claims include the subject matter that the Examiner indicated would be allowable if placed in the appropriate form and they are believed to be allowable. In this connection, the Examiner indicated the following in the Office action:

"Claims 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims." and

“Claims 9-11 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.”.

New claim 12 is an independent claim and sets forth a braking system for a surface abrading machine for abrading a surface with an abrading element having a frame, an axle member and wheels including braking means positioned to contact at least one of the wheels of the surface abrading machine including rotating means for rotatably engaging at least one of the wheels of the surface abrading machine and a braking means axle member connected to the rotating means. The new independent claim 12 also includes means for exerting a braking force through the braking means axle member, and manually operable brake engaging means for causing the rotating means of the braking means to engage at least one of the wheels of the surface abrading machine. This new claim 12 contains the subject matter of the previous claim 7, the intervening claims 6, 5, 4, 3, 2 and the base claim 1. As indicated above, the Examiner indicated that claim 7 would be allowable if rewritten in independent form including all of the limitations of

the base claim and any intervening claims and consequently new claim 12 that contains these limitations is allowable.

Claims 13 and 14 depend directly and indirectly from allowable claim 12 and hence the previous remarks made with respect to claim 12 also apply to claims 13 and 14. In addition, none of the cited references disclose or suggest the claimed combination including the manually operable brake engaging means comprising pressure exerting means for causing the rotating means to put pressure on at least one of the wheels of the surface abrading machine of claim 13 and the adjusting means for adjusting such pressure of claim 14. Consequently, claims 13 and 14 are also allowable.

Claims 15, 16 and 17 depend directly or indirectly from the previously discussed allowable claim 12 and hence the previous remarks made with respect to claim 12 also apply to these claims. In addition, claims 15 and 16 contain the subject matter of the previous claims 9 and 10 that, as indicated above, the Examiner indicated contained allowable subject matter and hence these claims are also allowable. With respect to claim 17, this claim depends directly from claim 16 and adds the additional limitation that the axle of the braking means stated in allowable claim 16 as being movable to an engaged position and a disengaged position is movable by the manually

operable brake engaging means. Consequently, claim 17 is allowable since it merely adds an additional limitation to the allowable claim 16.

Claim 18 depends directly from the previously discussed allowable claim 12 and hence the previous remarks made with respect to claim 12 also apply to this claim. Moreover, claim 18 contains the subject matter of the previous claim 11 that as set forth above was indicated by the Examiner as containing allowable subject matter. Consequently, claim 18 is allowable.

Claims 19, 20, 21, 22 and 23 depend directly or indirectly from the previously discussed allowable claim 12 and hence the previous remarks made with respect to claim 12 also apply to these claims. In addition, claim 19 that depends from allowable claim 12 adds the limitation of a plurality of brake discs and at least one brake disc was present in the previous claim 11 that the Examiner indicated contained allowable subject matter.

Consequently, claim 19 is also allowable. Claims 20, 21, 22 and 23 depend from allowable claim 19 as well as allowable claim 12 and merely add additional limitations related to the brake discs of claim 19. Consequently, claims 20, 21, 22 and 23 are allowable.

Independent claim 24 contains the subject matter of the previous claim 8 that the Examiner indicated would be allowable if properly rewritten in

independent form. Consequently this claim 24 which contains the limitations of the previous claim 8 and the intervening claims 7, 6, 5, 4, 3, 2 as well as the base claim 1 is allowable. Claims 25 and 26 merely add additional limitations to the brake force adjusting means of allowable claim 24 and hence claims 25 and 26 are also allowable.

In view of the foregoing, all of the present claims are allowable and early allowance is requested.

Attachment A to this amendment sets forth support in the application for the new claims added by this amendment. Of course, there may be other claim support in the application that is not set forth in Attachment A.

Formal replacement drawings to replace the original informal drawings that have poor line quality are attached hereto as Attachment B. For clarity, three sheets have been used for the drawings rather than the original two sheets. No new matter has been added to the drawings.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Michael W. York".

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Support for New Claims

Claim

Support

- | | |
|-----|---|
| 12. | Figs. 1, 2, 3, 4, 5 and 6
original claims 1, 2, 3, 4, 5, 6 and 7
page 5, second full paragraph
page 6, lines 16-20
paragraph bridging pages 7 and 8
paragraph bridging pages 10 and 11
paragraph bridging pages 13 and 14
paragraph bridging pages 16 and 17
page 21, lines 2-7 and 11-14 |
| 13. | Fig. 1
paragraph bridging pages 12 and 13
paragraph bridging pages 13 and 14 |
| 14. | Fig. 1
paragraph bridging pages 12-13 |
| 15. | Fig. 1
original claim 9
page 21 , lines 2-14 |

Claim

Support

16.

Fig. 1

original claim 10

page 5, lines 16-19

page 11, lines 8-13

paragraph bridging pages 12 and 13

paragraph bridging pages 13 and 14

page 14, lines 4-12

17.

Fig. 1

page 5, lines 16-19

page 11, lines 8-13

paragraph bridging pages 12 and 13

paragraph bridging pages 13 and 14

page 14, lines 4-12

18.

Figs. 3, 4, 5 and 6

original claim 11

paragraph bridging pages 10 and 11

19.

Figs. 3, 4, 5 and 6

page 10, first full paragraph

20.

Fig. 3

page 10, lines 4-8

ATTACHMENT A

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Claim

Support

21.

Fig. 3
page 10, lines 4-8

22.

Figs. 3, 4, 5 and 6
page 10, lines 7 and 8

23.

Figs. 3 and 4
page 9, first full paragraph

24.

Figs. 1, 2, 3, 4, 5 and 6
original claims 1, 2, 3, 4, 5, 6, 7 and 8
page 5, second full paragraph
page 6, lines 16-20
paragraph bridging pages 7 and 8
paragraph bridging pages 10 and 11
page 11, first full paragraph
paragraph bridging pages 13 and 14
paragraph bridging pages 16 and 17
page 21, lines 2-7 and 11-14

25.

Fig. 3
page 11, first full paragraph

26.

Fig. 3
page 11, first full paragraph

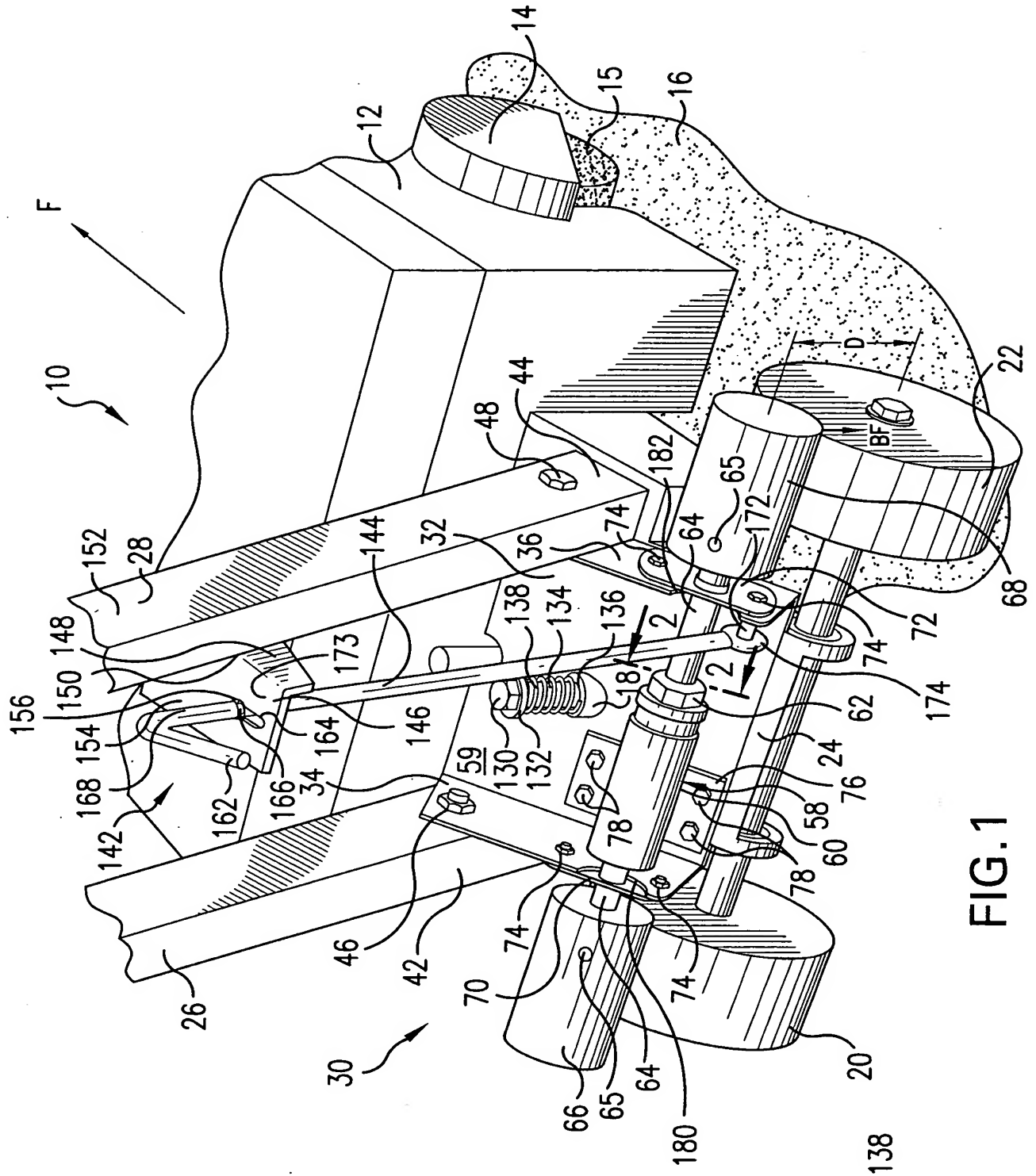


FIG. 1

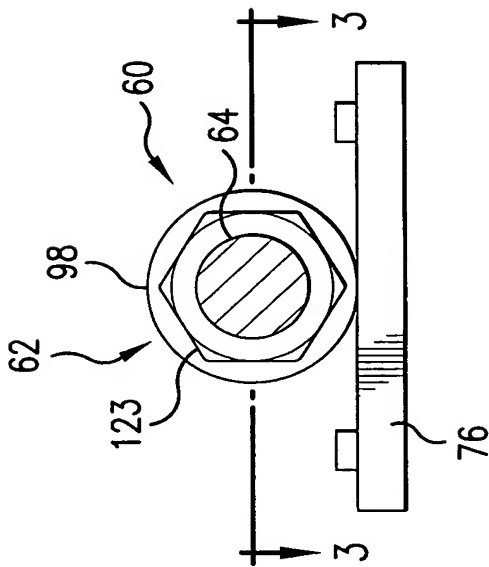


FIG. 2

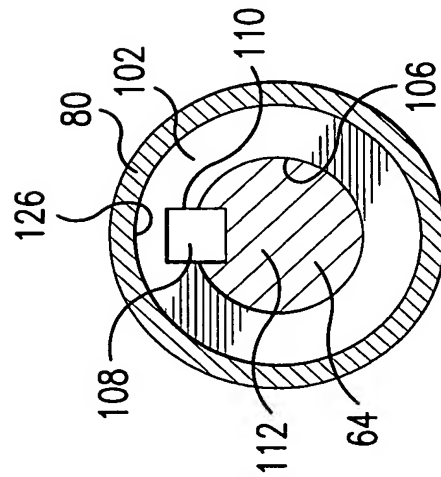


FIG. 4

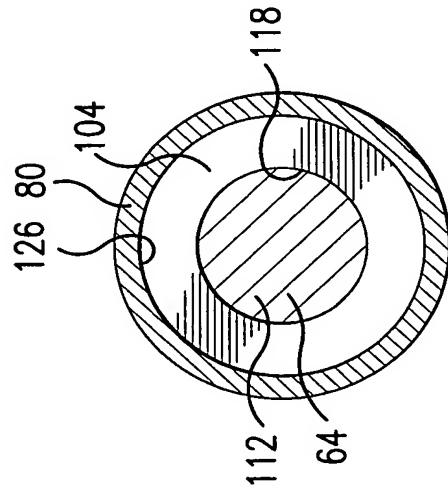


FIG. 5

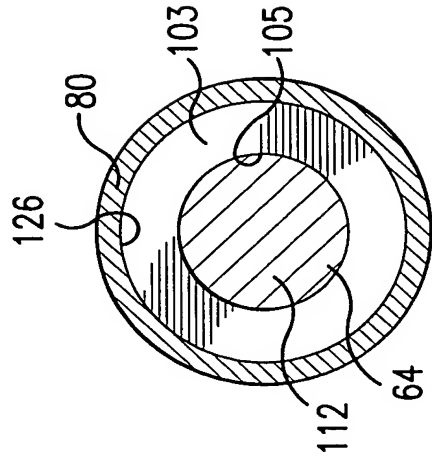


FIG. 6

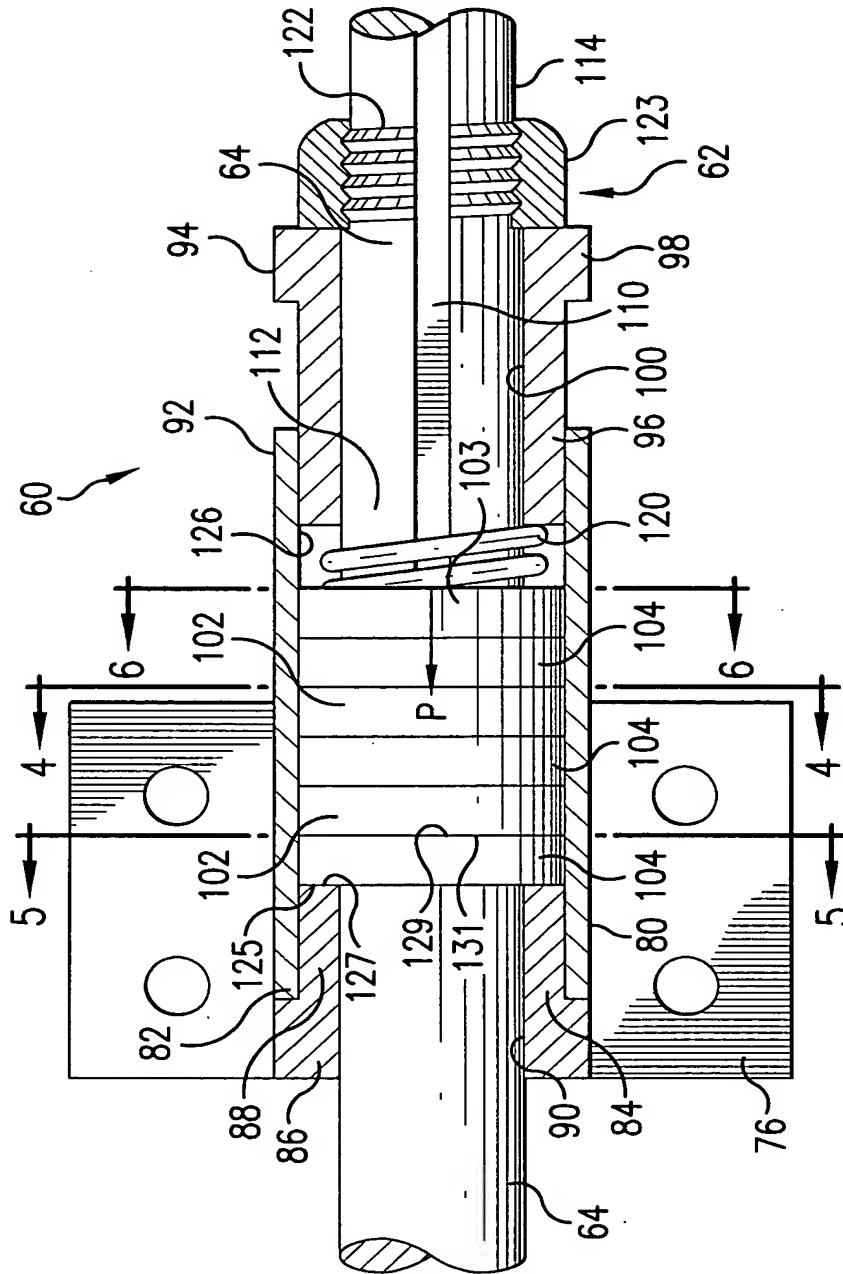


FIG. 3